

AN ANNOTATED LIST OF THE CICINDELIDAE KNOWN
TO OCCUR IN NEVADA
(Coleoptera)

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The only group of this family known to occur in Nevada are representatives of the massive genus *Cicindela* L. 1758. Fourteen species and eight subspecies of the genus, which is represented in the continental United States by over 100 species and many varieties, have been found in the State.

I am indebted to Mont A. Cazier for most of the determinations.

Cicindelini

1. *Cicindela purpurea graminea* Schaupp 1883. Washoe County (*Truckee Meadows*, 18/IV/40, 16/III/41, el. 4,500 ft.—LaR). This is a midwest form which will undoubtedly be found in eastern Nevada also. Collection data in the vicinity of Reno indicate it to be an early spring form. No previous records.

2. *Cicindela limbalis* Klug 1934. I have no specimens of this. W. Horn (1915) listed Nevada, New Mexico, Kentucky, Ohio, Colorado, New Jersey, and Manitoba for *limbalis* as a form of *purpurea*.

3. *Cicindela tranquebarica borealis* Harris 1911. Washoe County (*Truckee Meadows*, 17/IV/40, 16/III/41, el. 4,500 ft.—LaR). Primarily a northwest form extending into Nevada, and another early spring variety. Members of this complex in Nevada are habitués of alkaline and semi-alkaline areas. The most populous colony known to me in the Truckee Meadows is located on a stretch of semi-alkaline ground lying partially in foothill brushland and partially in irrigated pasture land on the eastern edge of the Meadows, the central portion of which is strongly overgrown in saltgrass, bordered with *Chrysothamnus nauseosum*. Here *borealis* is common, while *kirbyi* is occasionally taken. *Borealis* larval burrows are generally constructed in the saltgrass along ditches, but adults commonly frequent the open clearings of alkaline aspect which lie adjacent to the grassland. No previous records.

—*Cicindela tranquebarica kirbyi* LeConte 1866. Churchill County (*Little Soda Lake*, near Fallon, 19/V/40, el. 4,000 ft.—LaR); Washoe County (*Truckee Meadows*, 23/III/41, el. 4,500 ft.—LaR). No previous records.

—*Cicindela tranquebarica owena* Fall 1917. Churchill County (*Little Soda Lake*, near Fallon, 19/V/40, el. 4,000 ft.—LaR). *Kirbyi* and *owena* were taken about the circumference of several of the tiny alkaline pools in the neighborhood of Little Soda Lake, where both larvae and imagines were common during the summer months. Many of these pools are in the nature of playas, and contain water only during the winter and spring months. Generally they are so alkaline as to preclude aquatic insects, and are inhabited only by the brine shrimp, *Artemia salina*, and other phyllopods. *Owena* was originally described from Olancha, Owen's Valley, California, and seems to have worked into the Great Basin up the Sonoran Trailway (see *carthagena hemorrhagica*). No previous records.

—*Cicindela tranquebarica propinqua* Knaus 1922. Nye County (*Ash Meadows*, 16/VIII/21, el. 2,050 ft.—W. Knaus). This is the type locality, and the form was described from a solitary male. Knaus says: "On margin of mud stream. No other specimens seen in five days collecting." Knaus described it as a variety of *denverensis* Casey, and reported it associated with *nevadica*, *hemorrhagica* and *tenuisignata*. I have no specimens.

4. *Cicindela vibex* Horn 1886. In 1914, Col. Casey described *parallelonota* based on a single female from Las Vegas, Clark County, Nevada, which has since been relegated to the synonymy of *vibex*. I have not seen the species in Nevada.

—*Cicindela vibex moapana* Casey 1914. Casey's type was a single female from McGill, White Pine County, Nevada, taken at 6,500 ft. elevation. I do not have the form.

5. *Cicindela plutonica leachi* Cazier 1936. Washoe County (*Truckee Meadows*, III/40, 22/IV/41, el. 4,500 ft.—LaR). This beautiful brilliant blue-green form appears early, and unlike the *tranquebaricae*, seems only to be in evidence during the spring, disappearing to unknown areas during summer and fall. It must be classed as rare in the State, for I have never managed to flush more than a dozen specimens during total spring collecting; fortunately, these are always readily conspicuous among the other *Cicindela*, being larger and more brilliant, and can be followed

for some distance before being lost. *Leachi* is found in the same alkaline area as that of the *tranquebaricae* discussed above. W. Horn (1915) listed California, Oregon, Idaho and Nevada as the range for *tranquebarica plutonica* Casey, and Cazier (1936A) mentions a specimen of typical *plutonica* for "Nevada" in the same paper in which he describes *leachi*. The latter's type locality is given as 9,000–10,000 ft. in the Warner Mountains, Modoc County, California, and the same elevation is listed for *plutonica*; however, the habitat of *leachi* in Nevada is quite different, 4,500 ft. being its best known elevation, while its typical environment of semi-alkaline aspect is in contrast to its observed preferences at higher altitudes where it seems to inhabit more frigid environs on open, exposed slopes. On the other hand, the contrast in habitats is lessened when it is remembered that *leachi* is confined to the cooler portion of the spring months in Nevada and that as such it cannot be classed as a characteristic element of semi-alkaline environs even while breeding there, for it leaves before hot weather sets in. No previous records.

6. *Cicindela longilabris* Say 1824. Elko County (*Ruby Mountains*, Lamoille Canon, 25/VI/41, el. 7,000 ft.—LaR and G. C. Christensen). This distinctive black species was seen only once along the upper, frigid reaches of Thomas Creek near the snow-containing cirque at the head of Lamoille Canon, where its environment is that of a forest-clearing inhabitant of montane aspect. No previous records.

—*Cicindela longilabris oslari* Leng 1902. Originally described from a 9,500 ft. altitude in Colorado, this form is reported from Nevada in the Leng (1920) catalog, but I have been unable to locate the original reference. Leng says of it that its flight is heavy, slow and weak, and it seems to prefer running to flying. I have not seen it.

7. *Cicindela oregona* LeConte 1857. Elko County (*Elko*, 24/VII/39, el. 5,000 ft.—LaR); Washoe County (*Truckee Meadows*, 29/V/39, 16/X/39, el. 4,500 feet.—LaR). This is the most widespread species in the West, and occurs over the entire state of Nevada. I am familiar with it in all situations except dense timber. On many occasions it is found living beside small springs in the desert, seepage from which sinks into the ground a few yards from its source, and located miles from the nearest permanent stream or lake. In such situations, where the sanded beach may be only a few square feet, the ground is often riddled

with larval burrows, and the adults are like flies hunting on the sand. LeConte described it from northern California and Oregon specimens.

8. *Cicindela senilis* Horn 1866. Schaupp (1883) listed the species from "California (San Diego), Nevada and Utah." I do not have it.

9. *Cicindela willistoni echo* Casey 1897. Churchill County (*Little Soda Lake*, near Fallon, 19/V/40, el. 4,000 ft.—LaR); Washoe County (*Gerlach*, 29/V/39, el. 4,000 ft.—P. C. Ting, M. A. Cazier, J. A. Downes, T. Aiken). Cazier (1936B) recorded it from Churchill-Pershing Counties (*Humboldt Lake*—H. F. Wickham).

—*Cicindela willistoni pseudosenilis* W. Horn 1900. Churchill-Pershing Counties (*Humboldt Lake*—H. F. Wickham) fide Cazier (1936B). I have no specimens.

—*Cicindela willistoni amargosae* Dahl 1939. Washoe County (*Gerlach*, 29/V/39, el. 4,000 ft.—P. C. Ting, M. A. Cazier, J. A. Downes, T. Aiken; *Truckee Meadows*, 12/X/39, 13/IV/41, el. 4,500 ft.—LaR). Like the *tranquebaricae*, the *willistoni* group inhabits alkaline desert areas, often in considerable numbers, and shows striking differences in maculation and color-phasing, varying from the well-maculate *echo* and *pseudosenilis* to the nearly immaculate greenish-to-black *amargosae*. The last mentioned form is the commonest *Cicindela* in the collecting area discussed under *tranquebarica borealis*, and can be taken in any numbers through spring and summer. Its Nevada distribution has been previously discussed by Dahl (1940), who described it on the basis of a large series from near Furnace Creek, Death Valley, Inyo County, California, where it was found along saline pools associated with *pseudosenilis*.

10. *Cicindela parowana* Wickham 1905. Washoe County (*Truckee Meadows*, 23-30/III/41, 13/IV/41, 4/VIII/41, el. 4,500 ft.—LaR). A trim, strongly-maculate species, not uncommon about Reno. For some time *parowana* was considered a subspecies of *fulgida*, but Cazier (1936B) felt it deserved specific status as originally described by Wickham and came to the conclusion that no true *fulgida* exists in the Great Basin. Wickham described it from a small series taken "on the old sand beaches of Little Salt Lake, near Parowan, Utah." I know of no previous records.

11. *Cicindela tenuisignata* LeConte 1851. This is included in the State fauna on the basis of Knaus' (1922) mention of it as

being associated with *tranquebarica propinqua* in southern Nevada, Nye County (*Ash Meadows*, 16/VIII/21, el. 2,050 ft.—W. Knaus). LeConte knew it from Arizona, southern California, Texas and Mexico. I have not seen it.

12. *Cicindela carthagena hemorrhagica* LeConte 1851. Clark County (*Las Vegas*, 16/VI/37, el. 2,000 ft.—LaR and N. Hancock); Mineral County (*Walker Lake*, 7/VI/41, el. 4,050 ft.—LaR and G. C. Christensen); Washoe County (*Pyramid Lake*, 16/VIII/41, el. 3,900 ft.—LaR, T. Trelease and G. C. Christensen; *Truckee Meadows*, 17/XI/39, el. 4,500 ft.—LaR). This is essentially a southern form in Nevada, being very common about small springs and water sources in alkaline areas, and while numerous in such situations, is often the only *Cicindela* present. It is quite characteristic of a biological area known as the Sonoran Trailway which enters Nevada from the southwest, and through which species of many phyla seem obviously to have gained entry into the State from more subtropical regions to the south. Included among these are certain lizards, rodents, scorpions and many insects.

G. Horn (1876) says *hemorrhagica* "occurs on the sea coast of southwest California, extending thence in a northeasterly direction to Owen's Valley, and following the extensions of the Mojave Desert, reaches Nevada, and finally the headwaters of the Yellowstone." Schaupp (1883) listed it from Southern California, Nevada and Utah, and Leng (1902) mentioned Nevada. It seems to have been one of the most commonly-collected forms in the State. LeConte originally described it from San Diego, California. While serving as Surgeon of California Volunteers in the middle 1860's, Dr. George Horn knew it from Owen's Valley, and made what is now merely an interesting comment that "it is remarkable that a species hitherto found only on the sea coast at San Diego, should occur so far inland."

—*Cicindela carthagena pacifica* Schaupp 1883. Clark County (*Las Vegas*, 16/VI/37, el. 2,000 ft.—LaR and N. Hancock). W. Horn (1915) listed southern California, Nevada and Utah for this variety. In 1924, Casey based *nevadiana* on two specimens collected by Spalding at Las Vegas (Clark County), Nevada, a name which has since fallen under the synonymy of *pacifica*. The *carthagenae*, like two previously-discussed groups (see above) is an arid-alkaline series, *pacifica* apparently being restricted to extreme southern Nevada, while *hemorrhagica* is

more widespread. While *carthagena*, *willistoni* and *tranquebarica* are often found associated, I have not found the association marked in the Truckee Meadows localities. In the Meadows, a small alkaline spot at the south edge has been most productive of *carthagena*, with little else but *oregona* present, while the previously-mentioned eastern locale (see *tranquebarica borealis*) has not yielded it.

13. *Cicindela pusilla imperfecta* LeConte 1851. Elko County (*Elko*, 11/VI/39, el. 5,000 ft.—LaR); Washoe County (*Truckee Meadows*, 14/VII/40, el. 4,500 ft.—LaR). This is a small, delicately-maculated form which is quite rare in Nevada, although distributed through most of the Western States. Schaupp (1883) had California, Oregon and Nevada for the range. LeConte originally described it from "California borealis."

14. *Cicindela nevadica* LeConte 1875. In his description, LeConte has "Nevada, Mr. E. P. Austin." Schaupp, of course, followed LeConte (1883) and in 1902, Leng commented that it had "not recently been collected." W. Horn (1915) reported the range as Nevada to Nebraska. I do not have the species.

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Louis Stanislaus Slevin, a well-known collector of California insects, was accidentally killed on November 9, 1945. He was born on November 7, 1879, in San Francisco and was educated at Saint Ignatius College. Being a member of a family of collectors and hobbyists, it is not surprising that with his two brothers he began his insect collecting career at the early age of nine. The family's summer vacations at Wright's in the Santa Cruz Mountains provided ample opportunities for the young naturalists.

In 1904 he and his mother moved to Carmel-by-the-Sea and established a stationery and art supplies store which he maintained until the last few years of his life. During the years at Carmel he took advantage of the fine insect collecting opportunities thereabouts and in the nearby Santa Lucia Mountains. His fine collection, amounting to some 30,000 specimens, was donated to the California Academy of Sciences in 1927. He continued to collect, however, sending material to the Academy until forced to discontinue his activities due to failing health.

He also was a nationally-known collector of historic photographs on maritime subjects, ships' figureheads, locomotives, street cars, Old California adobes, and San Francisco. He is survived by his brother, Joseph R. Slevin, Curator of Reptiles at the California Academy of Sciences.—E. S. Ross.